

## WHAT IS CLAIMED IS:

1. A method of reducing a probability of a negative outcome of application over a population, of a pharmaceutically active product, the method comprising:

obtaining data including dosage data and result data of said application, and

analytically processing said data to relate dosage data to subgroupings within said population, thereby to arrive at a safe and efficacious dosage recommendation of said pharmaceutically active product for at least one of said subgroupings, said safe dosage level recommendation being arrived at to minimize said probability of a negative outcome.

2. The method of claim 1, wherein said obtaining data comprises obtaining data of standard pharmaceutical product tests.

3. The method of claim 1, wherein said obtaining data comprises obtaining data of non-standard pharmaceutical product tests.

4. The method of claim 1, wherein said obtaining data comprises obtaining historical use data of said product.

5. The method of claim 1, wherein said obtaining data comprises obtaining historical data of other pharmaceutically active products similar to said product.

6. The method of claim 1, wherein said obtaining data comprises obtaining data of respective population subgroupings.

7. The method of claim 1, comprising providing dosage recommendations respectively for a plurality of said population subgroupings.

8. The method of claim 1, wherein said obtaining data comprises monitoring blood serum levels of members of said population.

9. The method of claim 1, comprising using a probability threshold to select said safe dosage recommendation.

10. The method of claim 1, wherein said probability threshold is an actuarially verifiable probability threshold.

11. The method of claim 1, wherein said analytically processing comprises use of at least one technique selected from the group consisting of:

US 2013/0136660 A1

a knowledge tree, said knowledge tree including interconnection cells describing qualitative and quantitative relationships between inputs and outputs,

a discrete vector model, and

a decision making optimization technique.

12. The method of claim 1, wherein said analytically processing comprises using discrete vectorization modeling to analyze said population into said population subgroupings.

13. The method of claim 12, wherein said discrete vectorization modeling comprises representing said subgroupings as respective vectors within a discrete vector analytical model.

14. A method of reducing a probability of a negative outcome of application, over a population, of a pharmaceutically active product, the method comprising:

obtaining data including dosage data and results data of said application, and

analytically processing said data to relate dosage data to subgroupings within said population, thereby to arrive at an actuarially robust safe and efficacious dosage recommendation of said pharmaceutically active

09592109-120301

product for at least one of said subgroupings, said safe dosage level recommendation being arrived at to minimize said probability of a negative outcome.

15. The method of claim 14, wherein said analytically processing comprises use of at least one technique selected from the group consisting of:

a knowledge tree, said knowledge tree including interconnection cells describing qualitative and quantitative relationships between inputs and outputs,

a discrete vector model, and

a decision making optimization technique.

16. The method of claim 11, wherein said analytically processing comprises using discrete vectorization modeling to analyze said population into said population subgroupings.

17. Apparatus for reducing a probability of a negative outcome of application over a population, of a pharmaceutically active product, the apparatus comprising:

an input for receiving data including dosage and corresponding results data of said application, and

an analytical processor for analytically processing said data to relate dosage data to subgroupings within said population, thereby to arrive at a safe and efficacious dosage recommendation of said pharmaceutically active product for at least one of said subgroupings, said safe dosage level recommendation being arrived at to minimize said probability of a negative outcome.

18. The apparatus of claim 17, wherein said analytical processor is further operable to provide dosage recommendations respectively for a plurality of said population subgroupings.

19. The apparatus of claim 17, wherein said analytical processor comprises a thresholder to obtain a probability threshold to select said safe dosage recommendation.

20. The apparatus of claim 19, wherein said probability threshold is an actuarially verifiable probability threshold.

21. The apparatus of claim 17, wherein said analytical processor is adapted to use at least one technique selected from the group consisting of:

a knowledge tree, said knowledge tree including interconnection cells describing qualitative and quantitative relationships between inputs and outputs,

a discrete vector model, and  
a decision making optimization technique.

22. The apparatus of claim 17, wherein said analytical processor comprises a discretization modeler to analyze said population into said population subgroupings.

23. The apparatus of claim 22, wherein said discretization modeler is operable to represent said subgroupings as respective vectors within a discrete vector analytical model.

24. The apparatus of claim 17, further comprising a memory unit for registering ownership information relating to said active pharmaceutical product, thereby to facilitate ownership transfer in case of occurrence of said negative outcome.